How To Make Thaumatropes

Thaumatropes are a popular toy from the 19th century. They create an optical illusion when twirled pictures on each side appear to blend into one due to the persistence of vision. A popular thaumatrope image is a bird on one side and an empty cage on the other. Because the eye can retain the image for a fraction of a second after the object is gone, it appears that the bird is inside the cage. This toy is an early example of animation and teaches us how to turn still pictures into moving pictures.

Supplies

- ☐ Thin dowel rod or chopstick
- ☐ White paper
- □ Cardboard
- ☐ Pencil
- ☐ Dark marker
- ☐ Glue (or tape)

Instructions

- 1. Cut out two circles from your paper. Use a cup or roll of tape to help trace your paper circles to make sure they are equal in size.
- 2. Draw a center line through each of the two circles to help determine where to place your images or text on each drawing. If you are writing text, keep your writing on the left side (or top side depending) of the centerline of the first circle. On the second circle, keep your writing on the right side (or bottom) of the centerline.
- 3. Sketch out your drawing in pencil.

- 4. Sandwich your two paper circles. If your drawings appear to be lined up incorrectly, retrace them with a dark marker. This will help with the optical illusion later.
- 5. Cut a piece of cardboard into a circle that is the same size as your paper circles. If you are using stiffer paper, feel free to skip this step and instead glue the paper circles together.
- 6. Making sure they are aligned correctly, glue both of your paper circles on opposite sides of the cardboard disk.
- 7. Take your dowel rod and push it through the holes inside the cardboard until it is firmly in place. If your dowel rod doesn't fit, tape it onto the center of the cardboard disk. Practice slowly twirling your completed thaumatrope by rubbing your hands together so that you see both sides of your circles. Gradually increase the speed that you rotate the thaumatrope until you see that your images have merged!





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